DETERMINING THE IMPACT OF RECENT GROWTH IN UNREGULATED FINANCE ON CHINA'S REAL ESTATE MARKET

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ABSTRACT

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Title: Determining the Impact of Recent Growth in Unregulated Finance on China's Real Estate Market

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The purpose of this thesis is to analyze how recent growth in China's unregulated finance system has affected the growth and stability of China's real estate market. The thesis takes a comprehensive approach to analyze two of the main drivers of growth in unregulated finance, investors and local governments, and their relationship to the real estate market. Wealth management products (WMPs) are sources of unregulated finance for domestic Chinese investors that have grown exponentially in the past decade. WMPs provide high rates of return to investors by investing in real estate, small businesses, and other relatively high risk projects. Like investors, local governments also have had a need for new investments. Local government debt as a percentage of GDP has continued to increase, and local governments have utilized urban developments and land sales to fund their budget deficits. Local governments have increased their use of local government financing platforms (LGFPs), state-owned enterprises that issue loans and raise funds on behalf of local governments, to get around loan restrictions placed on them by the central government. Thus, large-scale urban projects have continued to be produced at a high rate. Ghost cities are large urban districts built by local governments that sit almost entirely vacant. Case studies on two ghost cities, Kangbashi New Area and Zhengdong New District, exhibit some of the factors affecting local governments and how they relate to the real estate market. Going forward, potential unregulated finance issues include the rise of unregulated mobile finance for investors and high debt levels for local governments.

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Chapter 1: Introduction and Overview

Introduction

Since 1978, China has experienced a massive economic boom that has helped the country reach new heights. China's real estate industry has seen the building of numerous magnificent skyscrapers in cities like Shanghai and Guangzhou, the creation of entire urban districts in small cities, and brand-new apartments in Beijing to house newcomers and locals alike, all within the past three decades. Entire cities have changed completely in the midst of modernization and urbanization. Chinese urbanization is unprecedented in recent history, with huge numbers of people moving from the countryside into cities. The percentage of people living in cities was only 18% in 1978. Presently, about half of the population lives in urban areas, and the government has set a goal of 75% living in urban areas by 2025 (Johnson, 2013). One example of Chinese urbanization is Shanghai, a large city located in eastern China. From 1990 to 2013 (Figure 1), Shanghai built a new financial district along the Huangpu River. This area of the city, which just 20 years ago was an empty piece of land, is now the main economic center of Shanghai, with skyscrapers rivaling those seen in Lower Manhattan in New York City. What makes the story of China's rise even more impressive is that this story of rapid development in Shanghai is a story that has occurred in cities across China. The rapid development and urbanization of China serve as a visualization of China's impressive and rapid rise to economic power, and expectations are high that China's economy will soon rival the United States' economy. A central question is whether China is capable of maintaining its current breakneck pace of growth, or if certain factors, such as increasing debt levels and growing risks from shadow banking, will slow the pace of urban development.

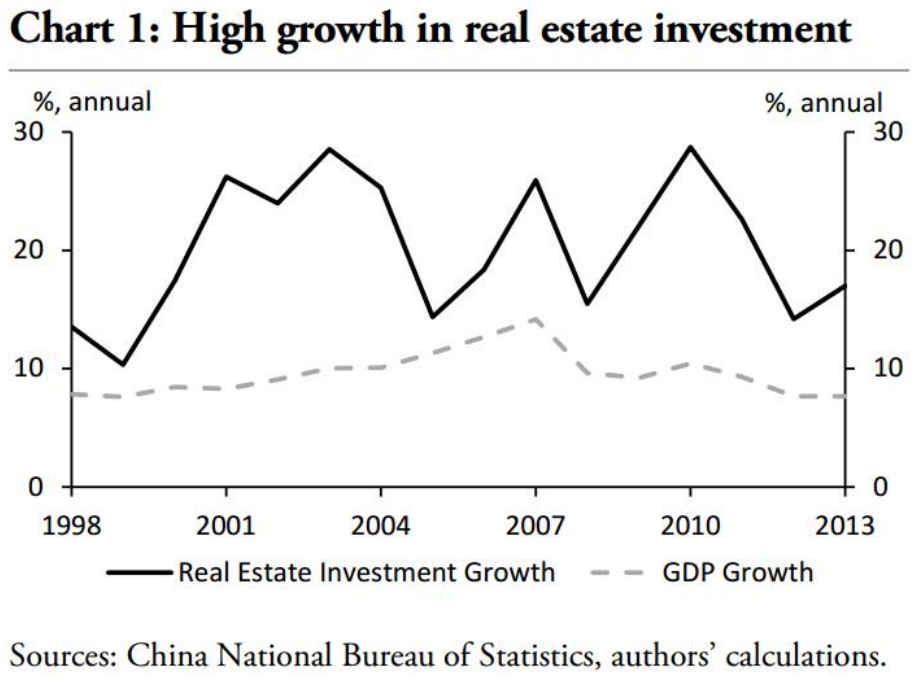
Figure 1. *Building Boom: Shanghai in 1990 (Top), and Shanghai in 2013 (Bottom)*

Source: Diaz, J. (2010). "Shanghai skyline: Before and after." *Gizmodo*.

While China's growth has been exceptional, the financing of large real estate projects has resulted in increasing debt at the local government level. Investors, eager to find investments with high yield, have flocked to real estate developments, resulting in large increases in property prices. Funding for these projects has become much more complex, as local governments and investors alike have created new methods of unregulated finance to continue rapid economic growth. The equity market in China continues to develop slowly, but it is not capable of handling the surge of investors searching for high yield investments. Investors thus have been seeking an asset class that will provide the returns that they need, and one area of particular interest to investors is real estate. The real estate market has seen consistent long-term growth for several

decades. With high growth nearly certain, investors can buy property, even at high prices, and expect to sell it at a higher price. After real estate privatization during the 1980s and 1990s, real estate investment has seen double-digit growth (Figure 2). High growth in real estate investments has been consistent even if growth over short-term periods has been volatile at times. This consistency has been vital for local governments that have funded their budgets with land sales and urban development. It has also been important for investors, who have speculated on the value of real estate on the assumption that its value would continue to increase.

Figure 2. *China Real Estate Investment Growth, 1998-2013*



Source: Nie, J., and Cao, G. (2014). China's slowing housing market and GDP growth.

In order to keep up with investor demand and fund their budgets, local governments have continued to produce urban development projects at a high rate. Local governments have had

control over land development since reforms were enacted by the Chinese central government that passed control to localities. They have taken advantage of land control by building developments on the land and by selling it for a profit (Sheng & Soon, 2016). These developments help local governments fund their budgets while also providing opportunities for investors who believe that they also can profit from these ventures. As local government debt continues to rise, reliance on profit-making from real estate developments is further entwining local governments and investors. The central government has become concerned that growth is too high and has attempted to take steps against it. However, attempts to slow local governments and investors have not succeeded, as funding within the shadow banking sector has increased even as traditional forms of financing have not seen the same increases. Increased reliance on shadow banking has augmented financial complexity, and it is making it harder for the government to track high-risk investments. Local governments are setting up state-owned enterprises to act on their behalf, and banks are creating financial products in trusts so that they remain off their balance sheet. Careful analysis is necessary in order to understand these recent trends and the relationship between local governments and investors.

Methods of Analysis

One of the goals of this thesis is to determine what conclusions can be drawn by looking at data that reflect recent trends for Chinese shadow banking and real estate. This thesis looks at trends of increasing real estate speculation, unregulated financing, and rising local government debt in China from the financial perspective of investors and local governments. Explaining these trends from a financial perspective helps one to see the rationale of investors and local governments and gain a greater understanding of how money is flowing in the Chinese economy. It is also helpful for seeing the potential risks that could arise from decisions made by these

stakeholders. The main method for analysis will be examining quantitative data relevant to the mentioned trends and groups. Both Chinese shadow banking and real estate are growing very rapidly, and data going back more than a few years could be outdated or even obsolete. Potential sources are evaluated closely to ensure that research in the thesis is as accurate as possible. Some research articles are not used in the thesis for one or more of the following reasons: the real estate market in some cities has grown substantially since the article was written, financial products have grown substantially since the article was written, or government regulations on these markets have been updated or changed. Since business and media sources have increasingly investigated and evaluated China's real estate market in recent years, these sources are incorporated in situations where information on current events is necessary for analysis. It is difficult to find reliable and specific Chinese shadow banking and real estate data for all but a few cities. When data are not readily available from the Chinese government nor domestic Chinese sources, data from reliable foreign sources are used in the thesis.

Thesis Overview

Chapter 2 of the thesis focuses on the history of the privatization of China's real estate market and the central government process for making reforms. Privatization of the real estate market occurred slowly from the beginning of the 1980s to the end of the 1990s. Progress in China to creating a private market began with the institution of special economic zones in the late 1970s. Government reforms in the 1980s and 1990s were supposed to move China relatively quickly to an open real estate system with greater private ownership. However, it would take nearly two decades of reforms before the market fully opened and real estate investment began to increase at double-digit levels. Since privatization, one of the main characteristics has been a dramatic increase in real estate as a source of investment and speculation. The Chinese real estate

market has grown exponentially since the opening of the real estate market, and it has had an important role in the rapid growth of the Chinese economy. Real estate, construction, and land sales are relied upon for growth at a higher rate than in many Western countries, an indicator of their importance to China's rise.

Chapter 2 also provides a discussion of the background of China's unregulated finance system, also known as the shadow banking system. Unregulated finance has increased by several multiples just in the last five years. Unlike in the West, shadow banking in China is domestic and maintains a relationship to the commercial banking system. The amount of bank loans that can be issued by commercial banks is limited by the central government, so banks use off-balance sheet methods to continue the lending process. These loans are not regulated by the government and are often targeted at small and medium-sized businesses that struggle to receive funding. Bank deposits are funneled into trusts, where funds are placed into products focused on high-yield investments like real estate. Investors like these products because they provide a higher yield than what one could get from low-interest Chinese bonds.

Chapter 3 expands further on the analysis of shadow banking products in Chapter 2, focusing primarily on wealth management products (WMPs). Chinese investors, having grown more sophisticated, have been searching for ways to increase their return on investment. The high returns of WMPs have made them a popular choice for investors. Banks create wealth management products by moving deposits off of the bank balance sheet into a trust. The funds are then loaned to high-yield projects and small businesses, producing returns higher than one would receive from government bonds. Much of the growth in the asset management industry has been from wealth management products, which have additional risks that do not occur with traditional bank loans. Banks keep wealth management products off of their balance sheets to

avoid government restrictions on lending. As a result, WMPs are not regulated by the government. They are also becoming more complex, with some WMPs channeling through additional trusts or into long-term projects that reduce the liquidity of the loan. Investors, however, are holding WMPs for only a short period of time, leaving banks to deal with the potential risks of a duration mismatch. The continued increase of wealth management products is worth monitoring for the potential effects on banks if problems begin to arise.

In Chapters 4 and 5, the focus of the thesis shifts from the needs of investors to the factors surrounding local governments. Local government debt has increased to nearly 40% of total GDP. Local governments only keep half of the revenues they produce while having to pay 80% of their expenses, resulting in a natural budget shortfall (Wu, 2015). When broken down by province, the provinces with the highest debt-to-GDP ratios are in southwest China. These provinces are primarily rural and have an economy reliant on agriculture. They require high debt spending to build developments that will encourage urbanization. Like banks and investors, local governments have increased their exposure to shadow banking, using it to fund projects. Local government financing platforms (LGFPs) are state-owned enterprises that act on behalf of local governments to obtain funding in the equity and bond markets. The most important asset controlled by local governments is land, and they are reliant on land sales to provide much of the revenue that they need for their budget. When LGFPs need collateral for a bank loan, local governments back the loan with the land that they own. The funding provided by LGFPs to local governments is often placed into land and urban development projects that provide additional revenue for the local government. Real estate investments have seen consistent long-term growth, and these projects almost always increase in value. Speculators are willing to invest in the projects as well, knowing that they can invest at a low price and get out at a higher price.

Real estate investments are profitable for both investors and local governments, and widespread construction has continued without considering the actual need of consumers.

Chapter 5 explains the development of ghost cities being built by local governments and analyzes the characteristics of some of the most well-known developments. Ghost cities are large urban districts that have the capacity to fit hundreds of thousands or even millions of people. They are built complete with public amenities like apartments, plazas, museums, and office buildings. However, many of them sit empty, having only a small population and little economic activity. In many of these urban developments, people interested in moving there are unable to afford the high cost of living due to the high bidding of speculators. The developments are not being built by considering the needs of the local people, but instead are built on the need for funding for local governments or high returns for investors. These projects require a high amount of capital spent up front and thus need sustainable long-term economic growth to keep the project from losing significant amounts of money. Similar to ghost cities, local governments have also built numerous university towns that provide housing and amenities for university students. These developments have a similar purpose to many ghost cities, which is to provide funding for local governments. Like investors, local governments are speculating that the urbanization projects that they produce will increase in value. With an increase in value, these projects provide the necessary funding to pay for their rising debt levels. However, by starting additional land projects, local governments could actually be adding to their debt, especially if the real estate market begins to level off.

The final chapter of the thesis focuses on potential shadow banking trends going forward that will affect investors and local governments. Investors in China are adapting mobile finance at a high rate, enticed by the ability to invest instantaneously. Many of the finance companies in

the mobile finance industry fail to notify personal investors of the risks of the investments and are largely unregulated. People have begun to lose confidence in the bonds of local government financing platforms (LGFPs). The main short-term factor causing lost confidence is the attempt by the central government to lower investments to LGFPs. High debt levels for local governments and lower revenue for LGFPs has lowered demand for bonds and could continue for the foreseeable future. These factors could slow the rapid growth of urban developments and force investors to act with greater caution in the future.

Chapter 2: Real Estate Privatization and Growth of Unregulated Finance

Chinese Real Estate Market and Privatization Reforms

For much of China's long history, the Chinese central government took a commanding role in providing housing for the Chinese people and continued to do so into recent times (Barth, Lea, & Li, 2012). Since World War II, the communist government has provided services including land partitions, welfare provisions, and low-cost loans for its people. Thus, even into China's recent history, real estate financing was controlled through government measures rather than the free market. The Chinese Constitution before 1978 contained a provision regarding the unlawfulness of the buying, selling, and transfer of land. Real estate transactions were "unlawful" unless performed under state means (Barth, Lea, & Li, 2012). Market-oriented reforms finally began in China in 1978 under new leaders such as Deng Xiaoping who were willing to move away from Mao Zedong's form of communism, and who held a more liberal view for potential reforms in the real estate market.

Chinese policies beginning in 1978 formed "special economic zones" or territories that had a privatizing effect on landholding and real estate in these areas. The people in these special territories were allowed by the government to build manufacturing centers and trade with foreign countries with little state influence on economic policy. In these new economic zones, it became evident that reforms would be necessary for owning land. The central government's real estate system could not keep up with the increase in the number of people that had moved or wanted to move into the special economic zones for employment ("A world to turn upside down," 2013). Some migrants to these new cities saw the success of privatized markets and wanted all markets to be privatized, including the real estate market. However, the government's response to making real estate changes, both in 1978 and today, has been measured and cautious, and the government

often has waited several years before enacting new reforms. As a result, the first reform by the government was only a small first step toward privatizing its real estate market. “A land occupancy charge was imposed on foreign enterprises in those territories and coastal cities in 1980 — the first time that the use of land had a price attached” (Barth, Lea, & Li, 2012). With a price attributed to the land, it became much easier for potential investors to buy and sell land in these areas. As more control was given to people and developers to buy and sell real estate, the connections between the government, work units, and the ways people could buy land became important in the eventual privatization of the real estate market.

By the end of the 1970s, the government-work unit system had deteriorated significantly as a form of social welfare. Work units, with their focus on the collective ideals of socialism, had an even greater importance than state-owned enterprises (SOEs) alone. Work units were supposed to provide for the people in their unit, including providing a job at an SOE, housing, food, and other provisions (Dutton, 1998). Rent was nearly free in this system. Any rent charged to people by the government or work unit was supposed to cover maintenance costs. However, since maintenance costs quite often exceeded collected rent, the quality of housing deteriorated rapidly (Deng, Shen, & Wang, 2009). Housing supply was also low compared to the number of people who could afford the low, subsidized costs of housing. With these considerations in mind, the Chinese government began analyzing how the real estate market could be reformed effectively.

One important point to note is the gradualist approach taken by the government. This approach taken in the 1980s has largely continued into the present. Rather than producing a new, radical set of free market reforms, the Chinese government spent most of the 1980s studying the potential effects of a free market system before making any changes. Their system of testing was

to gradually introduce reforms and try them out on a micro scale in cities across the country.

These market tests, which have been termed government "experiments" by various researchers, did not have a large impact on the real estate market at that time when measured by their effects on total private ownership (Lim & Lee, 1990). This decision to stand pat occurred as other free market reforms were made to open up China's economy. As China's economy opened, economic growth occurred with private businesses popping up and utilizing free forms of capital. These private businesses were more efficient than the state-owned enterprises (SOEs) still dominant at the time, and they were also more agile than SOEs at building necessary long-term assets and finding a strategic location for their business (Lim & Lee, 1990). Pressure built on state-owned enterprises to act in response to the newfound competition, and they pressed the government to change the real estate market to allow greater turnover and investment in land. Finally, the Chinese government moved to reform the housing market in 1988. As referenced by Deng et al., the *Implementation Plan for a Gradual Housing Reform in Cities and Towns* was the official document declaring the 1988 Chinese plan to implement a full-country reform of the housing market. Public housing units would no longer be run by state-owned enterprises and would be sold to tenants.

While this effort to sell public housing was intended to lower the burden faced by work units and allow new market forces in the property market to take hold, work units continued to provide housing for their workers. One of the reasons for this continuity was the freedom given in earlier reforms to the work units to make financial decisions for themselves (Deng et al., 2009). Another reason was that a large amount of housing flooded the market when government agencies did their part to sell property in the reform process. Many government agencies without a welfare mandate to provide for their workers made the property transactions the government

had wanted to occur: they sold their land to their tenants for below-market prices and allowed privatization to occur. Work units were involved on the opposite side of transactions to buy the new supply of housing rather than sell their own holdings. They took advantage of the situation to actually expand the number of workers receiving housing, and then they continued the system that existed before the reform (Deng et al., 2009). Due to the offsetting effect by work unit property expansion, public welfare unexpectedly increased after the 1988 reform, as noted by unconfirmed government data from the National Bureau of Statistics. It would take the institution of more reforms and two new government programs, the program for Economical and Comfortable Housing (ECH), and the Housing Provident Fund program (HPF), for the next steps to be taken toward privatization.

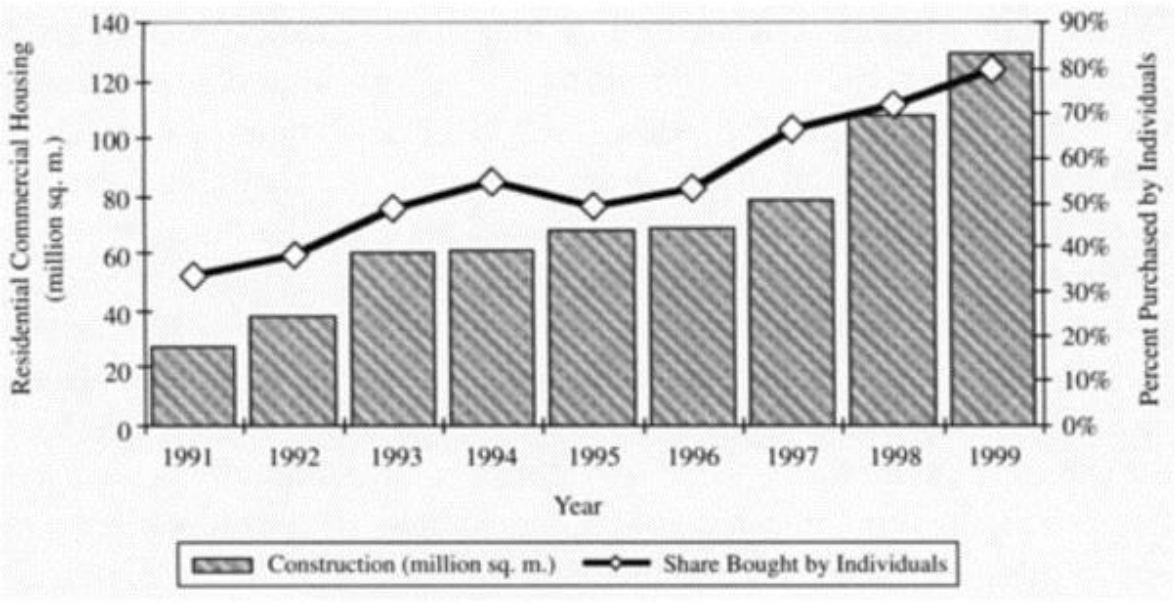
Economical and Comfortable Housing (ECH) created a new real estate system made up of two "layers": a government-controlled property market that provided welfare for the poor and middle-class, and a private market for wealthy investors or consumers to buy and sell real estate. Rather than use work units to fund properties, the new system created the Housing Provident Fund (HPF) to provide funding. Prospective property owners would pay into the Housing Provident Fund, and the HPF would disburse money back to the owners when they decided to buy property. Another important provision was that people who paid full market price for real estate would have near-complete property rights to buy and sell as they pleased. In contrast, people who bought a house from the government at a subsidized price would be restricted from certain market transactions and full ownership (Deng et al., 2009).

A study performed immediately after the 1994 reforms found that the privatization goals the government hoped to reach with the reforms were not matched as expected. Rather than relieving the work units of their responsibilities, the new reforms were an opportunity for the

work units to enter the market and purchase more property for their constituents (Wang and Murie, 1996). Demand for property did not come from wealthy urban individuals as expected but instead from work units that had ignored government reforms intended to keep them out of real estate. Though the long government reform process avoided most negative economic effects and promoted a new privatized system, it is again worth noting the rather inefficient, reactionary style taken by the Chinese government in the real estate market. After nearly two decades of allowing the work units to move against the government's reforms, officials in 1998 officially ended the work unit system of buying property.

China's reforms in 1998 came as a result of the 1997 Asian Financial Crisis. China was able to avoid some of the severest effects of the crisis, such as the rapid currency devaluation and capital flight that occurred in its Asian neighbors. However, the crisis also exposed some of China's economic flaws, and the government wanted to get GDP growth above 8% again. The Chinese believed that sustained growth in manufacturing and housing would drive the economy forward while lowering the strain on its underdeveloped financial system (Ministry of Foreign Affairs of the People's Republic of China, 2014). The government's ability to release the work units from their role of handling the welfare system was made easier by the stagnation of many state-owned businesses during the Asian crisis. As work units saw slower growth, they became willing to give up the welfare system as it became a drag on their bottom line. The government finally eliminated the work unit provision system, expanded ECH and HPF, and instituted a cash subsidy program that would take the place of direct property welfare (Deng et al., 2009). It would be the 1998 reforms that would create an explosion of private home ownership in China.

Figure 1. *Growth in Construction and Share of Housing Purchased by Individuals*



Source: China's Statistical Yearbook 2000, p. 342. (Beijing: China Statistics Press 2000).

As seen in the chart above, trends toward individual ownership were palpable by the end of the 1990s and into the early 2000s. Growth in the market no longer came from state-owned companies, but instead from the buying and selling of property in the private market. Construction went up 600% in the 1990s and would increase even more in the 2000s as private ownership continued to increase (China's Statistical Yearbook 2000, 2000). However, the reform programs took longer times to complete in rural and poor areas of China, and subsidies helped to provide housing in these areas through the HPF. The communist system was also not fully eliminated when focusing on the distribution of resources by the local governments. Local governments used the resources they received to promote projects specific to their area, and they often did not follow the central government's policies in ways expected by communist officials.

Important Factors in China's Recent Growth

In many cases, local governments implemented reforms from the central government at different times and levels. The central government budgeted little to no money for the local

governments, and the result was an uneven application of funds, with most funds going to areas that would benefit quickly from market reforms rather than to impoverished areas of cities that needed greater help (Feng, 2003). Local governments used rural or suburban land to create new urban developments and to enforce zoning regulations as they saw fit. The involvement of the local government has continued with the present real estate market, and fears of inequality and high debt now hang over the market in many areas due to excessive construction and debt in areas that cannot pay it off. Localities add risk to real estate projects by not carefully monitoring sources of finance, and some have encouraged speculation by attempting to benefit on the consistent rise in real estate prices. Up-to-date developments of the local government handling of real estate will be analyzed in further detail later in this thesis.

The development of the real estate market has had a large economic impact both on the Chinese economy as a whole and on the regional economies. Chinese reliance on the real estate and construction industry for growth has increased since its privatization, and China has relied on real estate for growth at a higher rate than most developed countries. One study found that the average regional employment impact of real estate and construction in China is 22%, which is higher than the rates in the United States, United Kingdom, France, Germany, and the Netherlands (Ren, Folmer, & Van der Vlist, 2014). Spain, a European country known for its very high reliance on real estate for growth, had a regional employment impact rate around 19%, a proportion that was still under the comparable rate in China. Several Chinese provinces, including Tianjin, Shaanxi, Jilin, and Ningxia are above 40% (Ren et al., 2014). This high reliance on real estate and the large variation across regions are important trends that will be analyzed in further depth. These trends become especially important when considering the increase in real estate speculation combined with new sources of unregulated finance. These

factors could be increasing risk not just for the real estate market, but for the Chinese market as a whole.

China's Unregulated Finance System

The shadow banking system, or unregulated finance system, in China remains a characteristically Chinese system and has become important in the funding of new projects in China, including real estate. Some researchers prefer the term "unregulated finance market" as a term that better explains China's system than the more Westernized term "shadow banking," though the terms are used interchangeably. The shadow banking system did not begin developing in China until the late 1990s and early 2000s. Rather than serve as a leveraged instrument for investment management and the capital markets like in many developed countries, unregulated finance in China is used as a vehicle for credit and speculative investment in the private sector. China's unregulated finance system is small as a share of global shadow banking, but it is almost entirely domestic in nature and growing rapidly, with some researchers placing its growth at 30% or higher (Lasak, 2015). The total size of the shadow banking system depends on the numbers used, whether from inside or outside the government, and how recent the data are. Sources place the total size of Chinese shadow banking within a range of 5 trillion RMB to 46 trillion RMB; GDP share is between 8% and 80%. Research from the Brookings Institute places the shadow banking market at 25 trillion RMB, or 43% of China's GDP (Elliott, Kroeber, & Qiao, 2015). The unregulated finance system in China maintains ties to the commercial banking system; it is not independent of banks like shadow banking in the West. A comprehensive explanation of this system comes from the People's Bank of China, which highlights the differences of Chinese unregulated finance from a Western system. The People's Bank of China defines "China's shadow banking [system] as credit intermediation involving entities and activities outside the

'regular banking system' that serves to provide 'liquidity and credit transformation' and 'which could potentially' be a source of 'systemic risk or regulatory arbitrage'" (Elliott, Kroeber, & Qiao, 2015). The shadow banking role of creditors provides an alternative form of credit to China's banks, which handle the vast majority of traditional credit roles. China does not have a strong capital market system, and foreign financial influence in these areas are limited by the government. Due to recent monetary policy, Chinese banks have provided limited interest rates for investment and have investors seeking new investment opportunities. This gap has been filled by the variety of unregulated finance tools like wealth management products (WMPs) and entrusted loans, which are being used to fund a variety of projects ranging from corporate capital expenditures to real estate developments.

Table 1. *Characteristics of the Chinese Shadow Banking System*

China's shadow banking	Western shadow banking
Domestic financial system	Both domestic and foreign financial system
Mainly driven by commercial banks	Mainly driven by non-bank financial institutions
Underdeveloped secondary market	Well-developed secondary market
Low securitization rate	High securitization rate
Low leverage rate	High leverage rate
Purchases made by individual investors	Purchases made by institutional investors
Immature development phase with inherent risks	More mature development phase
Irregular fund raising and lending operations	More regular fund raising and lending operations

Source: van der Linden 2015, p. 111-114.

As mentioned above in Table 1, one of the key characteristics from China's shadow banking and unregulated finance system is its lack of development (van der Linden, 2015). In contrast, the Western shadow banking system is highly developed and is often characterized by the amount of leverage that exists in the system. While the risks of leverage in the Western

capital markets are well understood and documented, the risks in the underdeveloped Chinese system are not well understood.

Focusing solely on the effect of leverage vastly underrates the potential risks of the shadow banking system in China. When looking back at real estate reforms mentioned earlier in this chapter, one notices that the Chinese government has moved slowly when making its reforms. This lack of pace allows the shadow banking sector in China to maneuver around potential reforms that might affect the lending process. As a result, the shadow banking sector has had inconsistent lending and fundraising practices and has loaned at levels higher than the Chinese government wants (Table 1). With unregulated forms of financing spreading throughout China's economy, it could become difficult for the Chinese government to control them or even slow them down. Finance remains largely connected to both commercial banks and the role of the government, and development of the Chinese financial system cannot come fast enough, which might explain why unregulated financing has risen so quickly in China over the past fifteen to twenty years.

The traditional banking system in China is placed under strict controls by the government. Since the government opened up the economy in 1978, banks have been given special access to state-owned enterprises to provide loans. Bank competition has been suppressed[1], and banks have been following a relatively standardized system in how they approach bank loans and deposits. The ratio of loans to deposits has been kept at a strict level, and loans cannot be made at a rate greater than 75% of the total amount of deposits (Elliott et al., 2015). While not guaranteeing or promising the backing of any lost deposits, the government has refused to let its banks fail from

[1] While measurements of bank competition are hard to calculate from data from the Chinese government, one can take note of the difficulty that Western banks have had in the Chinese market to get an idea of how competition has been limited outside of a few domestic firms.

bad loans and would prevent major bank losses from occurring. A similar question is being asked about shadow banking loans. Many Chinese investors believe that if they invest in loans or wealth management products with a certain return, then there is no fear of the loans failing because the government will prevent them from doing so. Credit expansion becomes dangerous when the investors themselves do not fully understand the risks of the products and companies in which they are investing.

Shadow banking differs from traditional Chinese banking in that it provides sources of credit to small and medium-sized businesses that have trouble receiving credit over large businesses. This credit expansion has not been a large source of concern, and it might even be helping private businesses that are more efficient than large or state-owned businesses. However, the unregulated finance system has extended its branches of credit in many directions. The development of wealth management products has encouraged the promotion of high-risk high-reward projects. Some of the WMPs and other shadow banking loans contain significant duration risk (Sheng & Soon, 2015). Deposits and other short-term funds are pooled and are invested into long-term projects like real estate (Lasak, 2015). Banks, in response to the growth in WMPs, have joined with trusts involved with shadow banking to produce products of their own. Banks have produced their own products because most have hit the regulatory loan limit set by the Chinese government (Nunlist, 2016). A downturn in the Chinese economy could have far-reaching effects, especially given the growth and reliance on unregulated finance for complex projects. Small and medium-sized companies have become more reliant on unregulated finance over the last decade (Perry & Weltewitz, 2015). High growth has increased the interdependence between these groups and raises questions of whether it is even possible for the government to eliminate unregulated finance without significant effects, especially in the real estate market. The Chinese government

has continued to follow a cautious approach with regard to its financial system, making frequent, small changes to improve the system. However, the large changes that might be necessary to slow growth in the financial system have not been made under the communist government. A balancing act will have to occur between how much control the central government will give to shadow banks to handle complex functions, and how to regulate the traditional system as it continues to develop. Until China realizes a more refined financial system, the context of high real estate growth with the high growth of unregulated financial instruments will continue to put significant pressure when looking at the full picture of China's real estate market.

Chapter 3: Wealth Management Products

Introduction

Shadow banking has gained significant popularity in China as a source of financing since the worldwide recession in 2008 and 2009. In many countries, and especially the United States, added leverage from shadow banking and complex financial products are argued to have had an important role in the collapse of financial institutions and some real estate markets (van der Linden, 2015). Relatively sheltered from the worst of these crises, China has begun an unregulated financial boom of its own. Banks are issuing financial products that are kept off their balance sheets and serve a variety of roles: providing loans to small and medium-sized companies, producing high returns for individual and institutional investors, avoiding regulatory requirements on loans, and extending credit to risky borrowers. Wealth management products (WMPs) in particular have been a large source of this boom in shadow banking. Investors have had high interest in WMPs as a way to get higher returns than one could get from interest rates. WMPs involve the use of trusts that invest in high-yield projects like real estate and small and medium-sized businesses. In 2010, the value of wealth management products outstanding was under ¥4 trillion.[2] In August 2016, the Chinese Banking Wealth Management Registration System reported that the value of outstanding WMPs had grown to ¥26.4 trillion, or $4 trillion (Luo, 2016). The structure of shadow banking has changed rapidly within the last six years into a more complex system that goes further than simply act as an extra vehicle of credit. Wealth management products are now the main category of growth within shadow banking, which is itself a 50 trillion yuan industry. The Chinese government is concerned that an overly complex and leveraged financial system will create a volatile economic environment. It could also augment the risks to the overbuilt

[2] Note that CNY and 元 are also symbols used when referring to the Chinese yuan.

real estate industry and to local governments with high amounts of debt. Adequate understanding of wealth management products is thus important as their use in the Chinese economy continues to grow at a rapid pace.

Wealth Management Products Overview

Wealth management products (WMPs) in China are defined as financial instruments offered to both institutional investors and personal investors that have the potential for a higher investment return than one would receive on bank deposits alone. These products usually have a fixed return and a relatively short maturity. Like deposits, WMPs are made up of funds that are pooled together and invested mostly in loans and some securities. Unlike deposits, however, the range and scope of loans and investment choices is much more diverse than just the traditional bank loan.

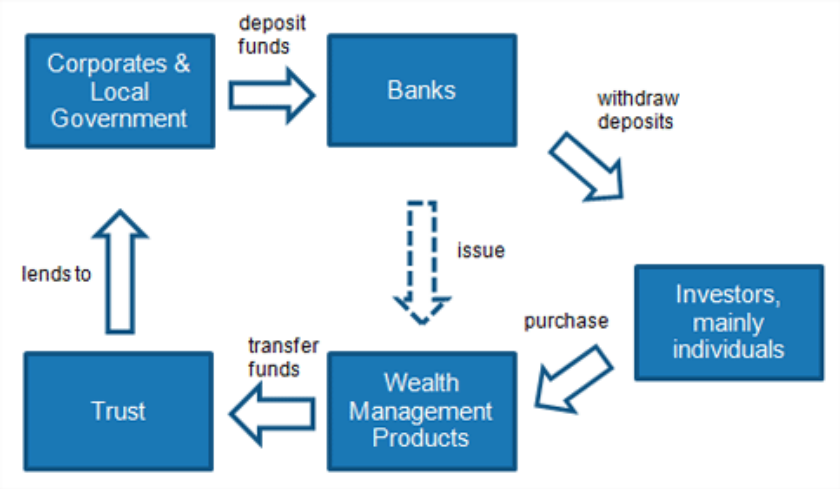
Banks openly market WMPs as a low-risk investment with a high rate of return. This risk-return opportunity has convinced many Chinese investors, who believe that they will get a great rate of return on the investment without the anxiety that comes with high risk. Many Chinese investors believe that since that the banks issuing these products are state-owned or have special government insurance, then the wealth management products will be backed up in the case of a default. However, about 70% of WMPs issued in China are not capital-protected products and have variable interest rates rather than fixed interest rates (Wei, 2015). Confusion over the actual qualities of the investment products and the applicable regulations is evidence of weakness within China's still-developing financial sector. The domestic equity markets remain in the early stages, and the government controls a large portion of shares in many companies (Centrowski, 2015). Like investors, banks have also used WMPs as a way of getting around potential issues from regulations.

Banks are limited by regulations that put a cap on the number of loans they can provide. Banks prioritize helping state-owned enterprises over small and medium-sized businesses, leaving small businesses without any other option but to obtain financing through the shadow banking system. The general public and even many investors do not have a full understanding of the fundamental risks of WMPs and how they differ from traditional, mainstream, and regulated investments. The investment of funds into more complex projects only adds to this confusion. Wealth management products have been structured to avoid as many government regulations as possible and involve banks, trusts, and other channels where money can be pooled and invested.

Types of WMPs

Wealth management products can be organized into types based on whether a financial institution issues and invests the funds itself, through a channel, or through a different financial institution. "Pure" bank WMPs are issued, managed, and invested by the banks without the help of trusts, making up 10-15% of all WMPs. Direct bank-trust cooperation products take the funds collected from a wealth management product and place them into a trust with the bank serving as the responsible investor of the funds. These products make up about 15% of WMPs. Pure bank and direct bank-trust products stay on a bank's balance sheet, and the bank backs up the money invested (Perry & Weltewitz, 2015). The most common wealth management product, known as collective trust products (CTPs) or "other channel" products, shifts investment decision-making to a trust or other financial institution rather than the bank who issues the product. Using a trust keeps funds off the balance sheet and places responsibility with a non-bank financial institution, which reduces the regulatory burden on the investment for the bank. The flow of funds can be visualized with the figure below.

Figure 1. *Off-Balance Sheet Wealth Management Products for Banks*



Source: Industry trend analysis – Growing WMP exposure a risk to banks. *BMI Research*.

Risks of Wealth Management Products

Wealth management products create risks that occur due to the nature of the product or the assets in which the funds are invested. The collective trust products (CTPs) in particular place investing control with the trust rather than the bank. The investors are usually wealthy, and the trust funds are only lightly regulated. Financial institutions, real estate, and industrial developers make up two-thirds of the CTP investments, as these wealthy investors expect a high rate of return (Perry & Weltewitz, 2015). Money that is invested into financial institutions provides a source of funds that these institutions can loan out themselves. While these secondary loans are not tracked, one can surmise that a percentage of these secondary loans provide an additional source of credit to high-yield projects in real estate and industry.

The mismatch of expectations between investors and banks can lead to a moral hazard issue. Leverage exists in the system from banks lending to other banks who then are lending to risky or complex development projects. If the project fails, then the loan goes into default, and the trustees cannot pay back the investors. The banks and channels can say that the responsibility for

the investment failure falls on the investor if wealth management funds go into default. On the other hand, the investor is prone to blame the bank for marketing the product as low-risk, as determining the actual risk of the complex WMPs is becoming increasingly difficult. In many cases, the bank has ended up paying off the shortfall when it has occurred. One example of a bank bailout was the $1 million bailout by CITIC of a wealth management firm that had failed (Nunlist, 2016). CITIC had plenty of funds to cover the small loss of $1 million. However, researchers question the ability of banks to cover large losses, especially with non-performing and junk loans on the rise in China. Significant losses would require government involvement through a bailout, which the government would be likely to perform to maintain control over its financial system. Large recent inflows into wealth management products could add to the risk of such an event occurring, as would the banks' use of inflows to make shaky investment decisions.

Wealth management products initially produced their rate of return through money market funds and other short duration investments. Use of money market investing has been decreasing due to the Chinese monetary policy since the Great Recession: the Chinese government began using large stimulus packages for its economy that lowered interest rates. In order to provide the target yield for their customers, WMP providers invested the funds into investments with a longer duration than the money market funds (Nunlist, 2016). According to the China Wealth Management Registration System, 16.5% of WMPs in fall 2016 went into non-standard credit assets made up of a loan mixture with a variety of durations. This mismatch of duration creates a liquidity risk for the WMPs. If a bank or channel needs to make up a shortfall and pay its investors, it is much more difficult to sell the long duration loans than it would be to liquefy the money market funds. A bank would go into default if it could not produce enough cash in time. One counterpoint is the fact that only a few wealth management products go into default every year.

However, the amount of pressure on each class of bank issuing the WMPs is different. Fitch Ratings, in an analysis done on whether banks were prejudiced to the use of wealth management products, found that the most vulnerable banks were also the ones most likely to rely on WMPs as a source of credit (Yuan, 2016). The amount of WMPs used by mid-tier banks continues to expand three years after regulations were enacted by the Chinese government. These banks, which have credit ratings of "bb" or "b-" from Fitch, have less liquidity and a worse ability to handle losses than the safer state-owned banks (Yuan, 2016). The relationship between banks and their invested assets could have a potentially large role in the small cities and banks with a large debt overhang. Shadow banking continues to change rapidly in China, and measuring these changes will be important as the government attempts to keep control over its financial sector.

The Evolving Functions of Shadow Banking

One measure to determine the use of non-bank and shadow bank financing is to analyze the growth of "Total Social Financing" (also Total Stock Financing, or TSF) released by the People's Bank of China. Researchers and economists use the TSF as the basis for their estimation of the size of shadow banking as a whole. The TSF exhibits the sources of fundraising within the Chinese financial system, particularly comparing the amount of financing from government sources with non-government sources. The TSF data have been released since the early 2000s, beginning when the Chinese government recognized that shadow banking was producing a significant portion of financing to businesses. Due to a lack of reliable statistical data, most estimates of the overall size of shadow banking end in 2014 and 2015 rather than continuing to the present day. The Total Social Financing data are also limited to a certain number of categories, usually "bank loans" and "non-bank loans." Changes will soon be made, as the government will begin including off-balance sheet wealth management products to measure the financial health of

banks in the first quarter of 2017 (Zhao, 2016). Regardless of these shortcomings, Total Stock Financing has become a source of analysis for researchers interested in determining trends in the functions of China's rapidly developing shadow banking system. The TSF shows the types of financing used to directly support the production of goods and services and thus an idea of the direct effects of shadow banking in particular. A widely-cited report by the Brookings Institution written in early 2015 mentions that the shadow banking system made up about 18% of TSF flows in 2014. In a description of the function of unregulated finance, the authors surmise that unregulated finance is used mostly for loans that go beyond the regulatory limit but still have a similar utility to a normal loan (Elliott, Kroeber, & Qiao 2015). Data that go through the first quarter of 2016 appear to exhibit a different picture, one in which shadow banking's contribution to TSF growth dropped significantly. The Federal Reserve Bank of San Francisco estimates that shadow banking in China serving as a direct form of financing in the real economy reached a peak of 30% in 2013 (Li, 2016). Shadow credit has dropped consistently from the 2013 high point into 2016 and now performs an insignificant function in direct credit activities. However, since 2015, TSF has trended upward once again. During this period, bank loan contributions only have increased slightly, and shadow banking sources of credit remain low. Therefore, it appears that TSF growth has had to come from more complicated forms of non-bank financing. The International Monetary Fund (IMF) reported on the recent expansion in its 2016 China report, producing a chart that separates the TSF growth into categories to provide a clear comparison. The chart correlates more closely with the San Francisco Federal Reserve's idea of a recent shadow banking credit peak than with the Brookings Institute authors' hypothesis of shadow banking having a monolithic function to provide credit.

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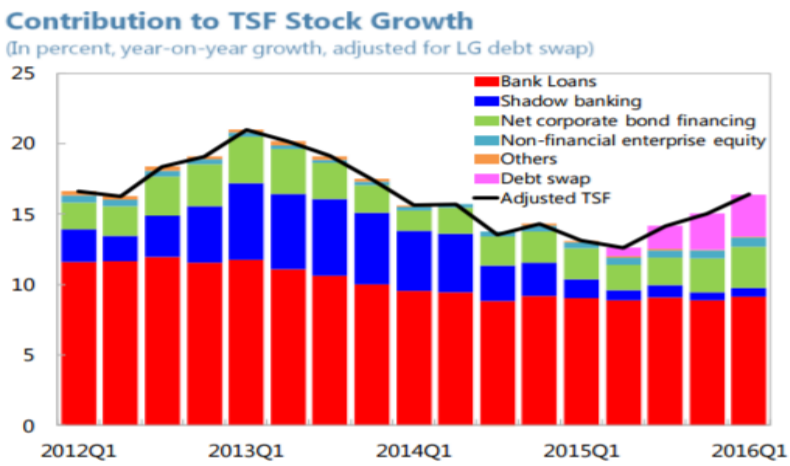
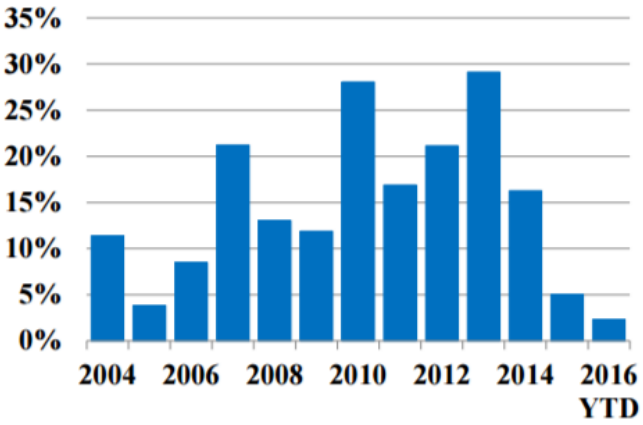


Source: The People's Republic of China: 2016 IMF Article IV consultation, p. 36. (2016).

Figure 3. *Shadow Banking Contribution in New Funds Raised by the Real Economy.*



Source: Li, C. (2016). The changing face of shadow banking in China, p. 4.

Even if recent government regulations have been effective at slowing down shadow banking in China, they do not fully explain the continued growth of wealth management products. WMPs issued by banks grew 80% from the end of 2014 to the third quarter of 2016 and now equal about 20% of total bank deposits (Li, 2016). Much of the recent growth in the asset management industry comes from wealth management products. The expansion in WMPs is a problem for the government in its attempt to measure risk in the financial sector. The characteristics of WMPs to

have convoluted packaging and hard-to-track investment channels make it difficult to determine what risks have to be monitored. At least two-thirds of WMPs are not on bank balance sheets, and banks do not have provisions for non-performing debt (NPL) from WMPs, also called bad debt (Sheng & Soon, 2015). An increase in non-performing debt from WMPs would add an unexpected debt load to the banks and increase credit pressure. Chinese regulators have focused on improving transparency in the shadow banking system and will need to continue to do so to bring to light the potential of wealth management products to affect the bad debt levels of banks. Increasing the amount of data on WMPs will produce a clearer picture of responsibility and avoid the opaqueness that helped to cause the financial crisis of the Great Recession.

Chinese Government Regulations

A big step that the government has taken to improve its understanding of risk with wealth management products is to include them in its risk assessment released by the central bank beginning in 2017. The People's Bank of China (PBOC) is hoping that adding this information will make it easier for banks to calculate the amount of capital they will need for both off-balance sheet WMPs and on-balance sheet loans (Zhao, 2016). In 2015, the government worked to produce barriers between commercial banks and trust companies. These barriers were meant to eliminate unsavory practices by banks to hide loans in trust companies and lower financial risk (Li, 2016). The regulation also has the goal of preventing a large and complicated network that would take down the whole economy. Interconnectedness could be a concern for the central government, as the increase in the use of technology and technological platforms will connect more consumers to financial products than ever before. It appears to be the case that the Chinese government is reactive with its policies rather than proactive, struggling to keep up with changes as they happen. Random spikes of shadow banking growth, like the one that occurred in November 2016, are likely

a result of shadow bankers using technology to find ways around the government regulations. The number of factors that can impact shadow banking are great, especially in a large and rapidly developing country like China. While the government has done well in avoiding systemic issues so far, achieving greater openness with the financial markets will make it easier to see some of the gaps in the current knowledge of wealth management products. The issues lurking in the shadows of shadow banking could be identified, and steps could be taken to protect sensitive industries, like real estate, from significant credit problems.

Summary

Wealth management products are the fastest-growing investment product in the growing shadow banking industry in China. Investors are flocking to wealth management products as a way of receiving higher returns than money market deposits. Banks issuing these products are increasingly moving them off of their balance sheets into separate trust companies. Due to China's underdeveloped capital markets, mid-sized banks and companies are relying on WMPs as a primary source of financing, and these companies are at the most risk for having credit problems. The market for wealth management products is quickly increasing in complexity. New issues of WMPs are invested into long duration, illiquid projects that are placed in hard-to-track trusts. The government has attempted to stay on top of risk management by placing barriers between banks and trust companies and by increasing the information surrounding these products. However, the government has been unable to slow the growth of WMPs, and many people question how connected the shadow banking system has grown to some of China's most important industries. Wealth management products remain a largely unknown quantity and are constantly adapting to regulations produced by the government. The institution of additional layers of complexity to the

shadow banking system will require monitoring as the Chinese government attempts to maintain stability in its financial system.

Chapter 4: China's Local Governments and Debt

Introduction

Local government debt in China has grown significantly over the past five years, even as China's GDP growth has slowed to the single digits. Total local government debt increased to 37.7% of GDP in 2014, reaching a total of RMB $24 trillion or $3.81 trillion (Wu, 2015). The local government debt issue is complex, made up of rapidly changing factors that can differ between cities and provinces. An analysis of the situation requires looking at the underlying factors for this recent debt buildup and how local governments have attempted to address it. One factor for the buildup of local government debt is the chronic budget shortfall that exists as a result of reforms. Budget allocation reforms made by the central government have resulted in local governments keeping only about 50% of total revenue, even though local governments are still required to pay for about 75% of total expenses (Wu, 2015). One way local governments have responded to the growing debt issue is by creating local government financial platforms (LGFPs/LGFVs) to provide access to funding. These platforms are actually state-owned enterprises (SOEs) that act on behalf of the local government, raising funds through the equity and bond markets, and investing in projects based on the government's objectives (Zhang, 2013). It appears that local governments, LGFPs, and the real estate market have become increasingly linked together. After reforms made by the central government over the past few decades, local governments gained increasing control over land and local real estate (Sheng & Soon, 2016). The linkage between local government debt and real estate is evident in the bank loans made to LGFPs. LGFPs in need of collateral have used the value of land or real estate provided to them by the local government as collateral for LGFP bank loans (Lu & Sun, 2013). An increasing amount of local government debt is being issued to fund long-term projects, including real estate

developments. 30% of local government debt raised in 2011 had a maturity date in 2016 or later (Lu & Sun, 2013). In other words, maturity on a large percentage of long-term government debt issued in 2011 did not have to be paid back for five years or more. The increase in high-maturity debt has raised questions as to how local governments will cover their long-term debt obligations, especially if overall debt continues to rise. This problem has intensified scrutiny of the large-scale development projects being built across China that are taking many years to be paid back.

Consistently high real estate growth has resulted in a swift buildup of Chinese cities, including in some cities that are not traditionally considered major industrial or economic centers in the country. One trend particularly noticeable in these 2nd and 3rd-tier cities is the construction of new urban developments that could fit hundreds of thousands to millions of people, complete with urban amenities like green space, office buildings, and large plazas. Western media[3] sources since 2009 have marveled at these brand-new metropolises that they have termed "ghost cities" (Chan, 2009). These large, well-planned, and modern cities were built by local governments and real estate developers to encourage migration to urban areas, a recent goal of the central government. The central government goal is to increase the number of people in urban areas from 50% to 70% by 2025, a movement of nearly 250 million people (Johnson, 2013). Building up small towns into large urban cities, or adding skyscrapers to small, rural villages is necessary to make this massive urbanization goal happen. However, these migration efforts have been inconsistent at best, with some urban developments filling up with people and economic activity after a few years, but others have experienced limited population growth. Many of these

[3] The first use of the "ghost city" term occurred in 2009 in an *Al Jazeera* report. Articles on ghost cities since this initial report have been written in business publications like *The Wall Street Journal*, *Economist*, and *Financial Times*, as well as in other newspapers and blogs.

developments lay eerily quiet because few people actually live in them. The Chinese themselves refer to ghost cities as “walls without markets” – cities with little economic activity that provide a visual representation of the building glut in China (Mallonee, 2016). The Chinese government, as well as some economists, do not foresee permanent issues caused by an oversupply of real estate projects, like the ghost cities. They view the empty ghost cities as a temporary issue - one that will go away as the migration policy takes effect – and as more people migrate from the countryside into cities (Sorace & Hurst, 2015). It remains debatable whether real estate projects funded by local governments are simply part of the China central government plan to promote urbanization, or whether these projects are being used by local governments to help fund their budgets. Debt levels continue to rise at the local government level, and local governments continue to search for new methods, like local government financial vehicles (LGFVs), to fund their budget deficits. Relying on a real estate boom market for funding could be producing instability with local government debt, especially if the real estate market begins to slow down in China. These factors affecting local governments and the China real estate market will be analyzed in detail over the next two chapters.

Local Government Overview

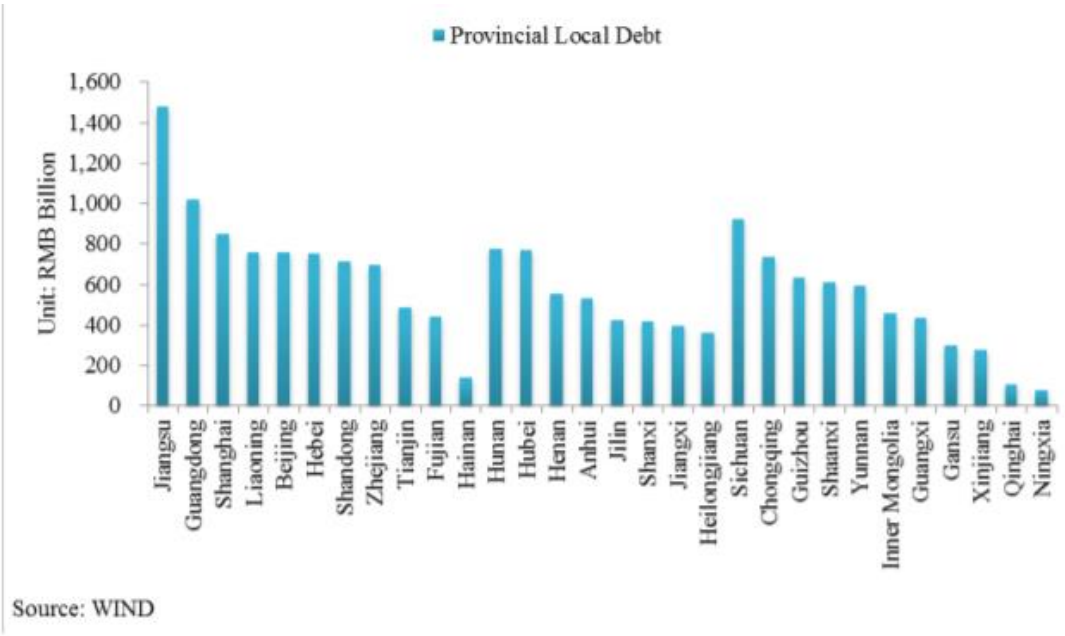
Local governments in China have a unique financing situation due to budget and property laws that have affected how they have handled recent budget deficits. “Local” in terms of governance in China refers to the levels of government below the central government, listed in order from largest to smallest–provincial, prefectural, municipal, county, township, and village. Traditional land practices incorporated into Chinese law place control of the land with the state, with local governments maintaining ownership of most of the land (Sheng & Soon, 2016). Since budget allocation laws went into place in 1994, local governments have retained only about half

(around 50%) of their revenue but are still required to pay for more than three-quarters (about 80%) of expenses, producing a budget shortfall (Wu, 2015). These governments have to find sources of funding to reduce the natural shortfall that occurs, and one way that they do it is by relying on real estate land sales. Based on research by economists at Deutsche Bank in China, land sales make up 35% of all local government revenue (Shi & Zhang, 2015). A large drop in land prices could have a significant effect on the ability of local governments to fund real estate projects. Land sales and real estate prices have increased almost continuously since real estate privatization, with only temporary decreases occurring when government regulations place short-term restrictions on supply or demand. Breaking down the amount of debt that exists in each province can bring greater understanding as to which areas of the country are experiencing the worst debt problems, both on an absolute level and compared to GDP. The data can then be used to determine what underlying factors are pervasive in the rapid increase of provincial debt.

Chinese government data categorizing the provinces by absolute levels of debt (Figure 1) does not produce a clear picture when determining the Chinese provinces that would be most affected by a large amount of local government debt. When looking at the absolute debt numbers in Figure 1 (below), one notices that the largest debt loads exist in the provinces in East China, including Jiangsu, Guangdong, Shanghai, and Beijing. Beijing, Shanghai, and the Guangdong provincial cities Shenzhen and Guangzhou all have high absolute levels of debt according to the chart (Wu, 2015). However, the absolute debt data are not compared to the ability of these governments to pay down their debts, nor are they compared as a percentage of government revenue. Furthermore, these governments along China's east coast are some of the country's most prosperous and well-developed, having had steady growth in many industries, including

shipping, trade, and manufacturing. Even as debt has increased in these provinces, the economic base in these countries is strong.

Figure 1. *Size of Local Debt by Major Provinces and Municipalities, June 2013 (RMB Billion)*



Source: Wu, X. (2015). An introduction to Chinese local government debt, p. 11.

One way to get a better understanding of the local government burden is to use debt-to-GDP data instead of absolute debt data. This data, exhibited in Figure 2 below, provide a different picture than the one seen in Figure 1. When considering debt-to-GDP data rather than absolute debt levels, the western and southwestern provinces, rather than the eastern provinces, have the highest debt-to-GDP ratio (Figure 2 below). The province of Guizhou has the highest debt-to-GDP level at nearly 80%, and the city of Chongqing has a debt-to-GDP ratio of 50%. The data analytics company Statista, using data gathered from the National Bureau of Statistics, determined that 2014 tax revenue in Chongqing was about CNY 128 billion, and 2014 tax revenue for Guizhou was CNY 102.67 billion (Tax revenues in China in 2014, 2014). Chongqing had a 2014 Gross Regional Product of CNY 1.43 trillion, and Guizhou had a 2014 Gross

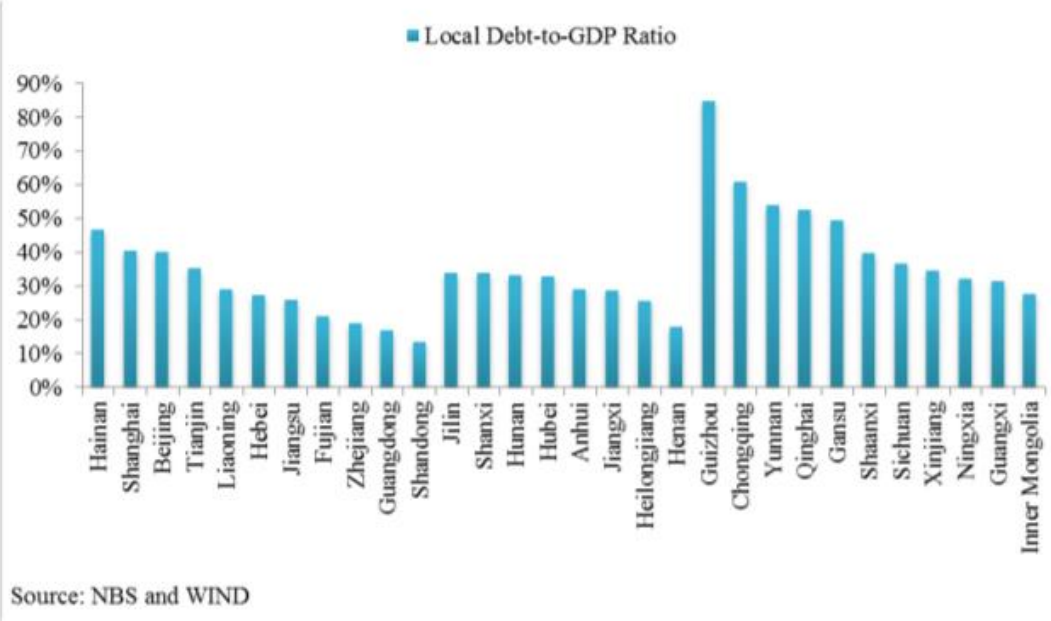
Regional Product of CNY 927 billion (Gross Regional Product, 2014). Using these numbers, one can calculate tax revenue as a percentage of annual Gross Regional Product. Tax revenue as a percentage of GRP was around 11% for Guizhou and 9% in Chongqing. Low tax revenues in these provinces are not enough to cover the total debt load of around CNY 600 billion, nor has tax revenue been enough to cover the annual budget deficit. It is one of the main reasons why local governments have been seeking new forms of funding. Other estimates, including one made by the International Monetary Fund, confirm the existence of large deficits when comparing local government revenue with local government expenses[4]. Many provinces within China have been unable to cover their annual deficits and thus have seen increases in their debt-to-GDP ratios.

It is also important to consider characteristics of the areas with high debt. When looking at Figure 2, one can see that three of the provinces in southwestern China, Chongqing, Guizhou, and Yunnan, have high debt-to-GDP ratios. Yunnan and Guizhou are two of the poorest provinces in all of China, ranking 30th and 31st among provinces in GDP per capita.[5] These provinces have a higher reliance on agriculture than the developed areas on the coast, yet they require a relatively high local government budget compared to their current GDP due to the costs of recent urban development. Demographically, these provinces are more rural than the provinces on the eastern coast, and rural people are being pushed by the central government to migrate into cities (Fung, 2015). One exception to the migration argument is Chongqing, a rapidly-growing city in southwest China. Chongqing does not have an economy based on agriculture or changing social dynamics like the small provinces with high debt-to-GDP ratios.

[4] Lu, Y., & Sun, T. (2013). Local government financing platforms in China: A fortune or misfortune? *International Monetary Fund*.
[5] Based on 2013 data pulled from China Bureau of Statistics website

However, it has been plagued with issues of corruption, such as the scandal surrounding local leader Bo Xilai. The existence of a permanently high debt-to-GDP ratio in Chongqing is difficult to discern. It is possible that large, mostly revenue-less infrastructure investments such as road projects are increasing debt in the municipal government. A lack of proper financial management due to corruption would be a temporary problem that would not have long-term effects if corrected with reforms to improve government transparency.

Figure 2. *Debt-to-GDP Ratio of Major Provinces and Municipalities, June 2013*



Source: Wu, X. (2015). An introduction to Chinese local government debt, p. 11.

Most provincial governments in China, including those with very high debt ratios, continue to invest in infrastructure and real estate projects that they believe will stimulate growth in the economy. With a decreasing ability to cover debt with GDP, and a decreasing ability to cover debt with annual revenue, local governments have turned to off-balance sheet methods to

fund significant projects in its budget. This response by local governments is one way to relieve some of the pressure that they face from debt increases without stopping the projects they wish to complete for their constituents.

Local Government Financing Platforms (LGFPs)

One of the most common forms of financing for local governments is the use of asset-backed lending and borrowing to provide funds for new projects. However, local governments can have significant issues with borrowing money, as it is illegal for them to borrow directly in China (Zhang, 2013). Local governments have moved large infrastructure and real estate projects into a holding company, similar to what banks have done with retail wealth management products. The holding companies are state-owned enterprises (SOEs) that have the same borrowing abilities as a company, including the ability to raise funds through bonds, an equity offering, and entrusted loans (Zhang, 2013). These holding companies are known as local government financing platforms (LGFPs).

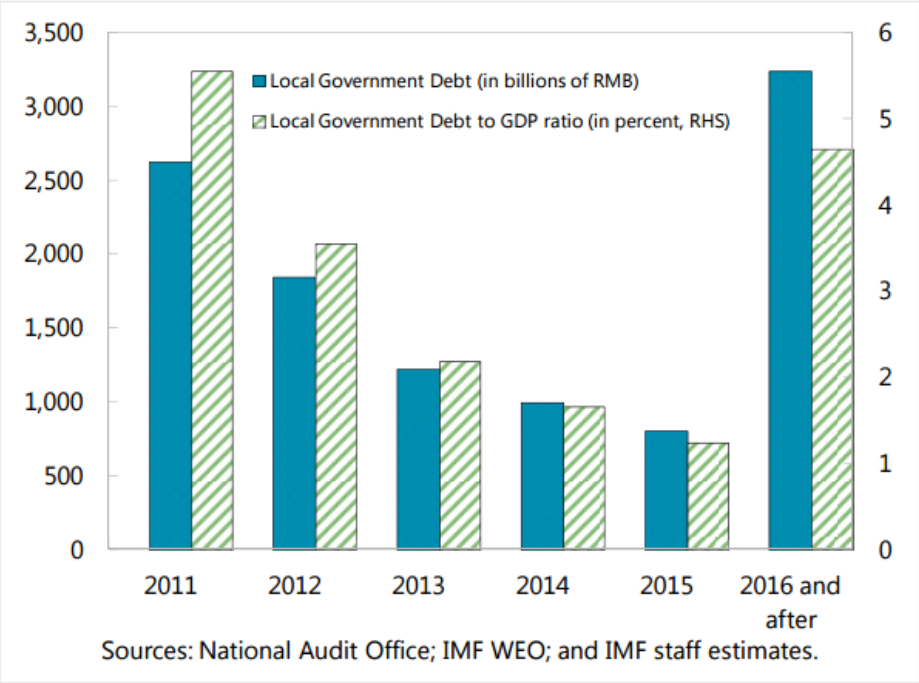
By funneling money through the LGFPs, local governments have the ability to push debt issues into the future and continue with various infrastructure projects to help their constituents. The use of LGFPs to handle financing on behalf of local governments is a recent phenomenon. During China's initial real estate boom after the privatization of the real estate market, local governments took advantage of their landholding status and sold land as a form of financing (Lu & Sun, 2013**)**. With land sales slowing down, these governments have turned to real estate development and LGFPs to improve their balance sheets. However, this recent change has not resulted in a total shift away from land sales. The state-owned enterprises (LGFPs) that are acting on behalf of local governments have to maintain financial stability themselves, or banks could still choose not to lend to them. While some LGFPs have the ability to use profits to repay

bank loans, others require support from local governments to provide loan collateral. This collateral is usually an asset like land or a land sale (Lu & Sun, 2013). Recent data place LGFPs as the largest borrower on behalf of local governments, reaching RMB 7 trillion, or 39% of local government debt in 2013 (Sheng & Soon, 2016). Now that these local government financing vehicles cover a significant proportion of debt, there has been a need to follow them closely for potential risks, especially with their connection to growth industries like real estate and infrastructure.

As with wealth management products matched to investments with a maturity of several years, LGFPs often loan money to long-duration infrastructure and real estate projects. The LGFPs remain stable as long as the cash flows from these projects cover any short-term needs, including the growing interest payments on the debt. Liquidity risk could increase dramatically if the real estate market began to slow, or if banks regarded land assets as safe collateral rather than make a proper assessment of their quality. Local governments are becoming increasingly reliant on land sales and real estate developments, known for their volatility, in the midst of the building of China's still-young financial markets system. In a situation of decreasing real estate and land prices, these local governments would have to come up with an internal source of revenue that could replace the losses in real estate. Since the inherent issue for local governments has been finding sources of revenue, and most revenue would be tied up in long-term projects, this scenario would be of serious concern. Banks would take losses on real estate loans as well, but they do not loan enough solely to LGFPs to be hurt significantly by a failure of these companies. Some of the risks of lending to local governments remain unknown until more information is provided about their balance sheets. In Figure 3 below, one can see an analysis of debt maturity as of 2011. The timing of the debt was split almost evenly between debt that had less than a year

of maturity, and debt that had a maturity of five years or more. About 30% of local government debt had a maturity of five years or more, which is the second-highest maturity behind debt of one year or less. Short-term debt made up about 70% of total debt (Lu & Sun, 2013). The diverging maturities exhibited the increase in the usage of real estate collateral that had a higher maturity than more liquid assets.

Figure 3. *The Year of Maturity of Chinese Local Government Debt*

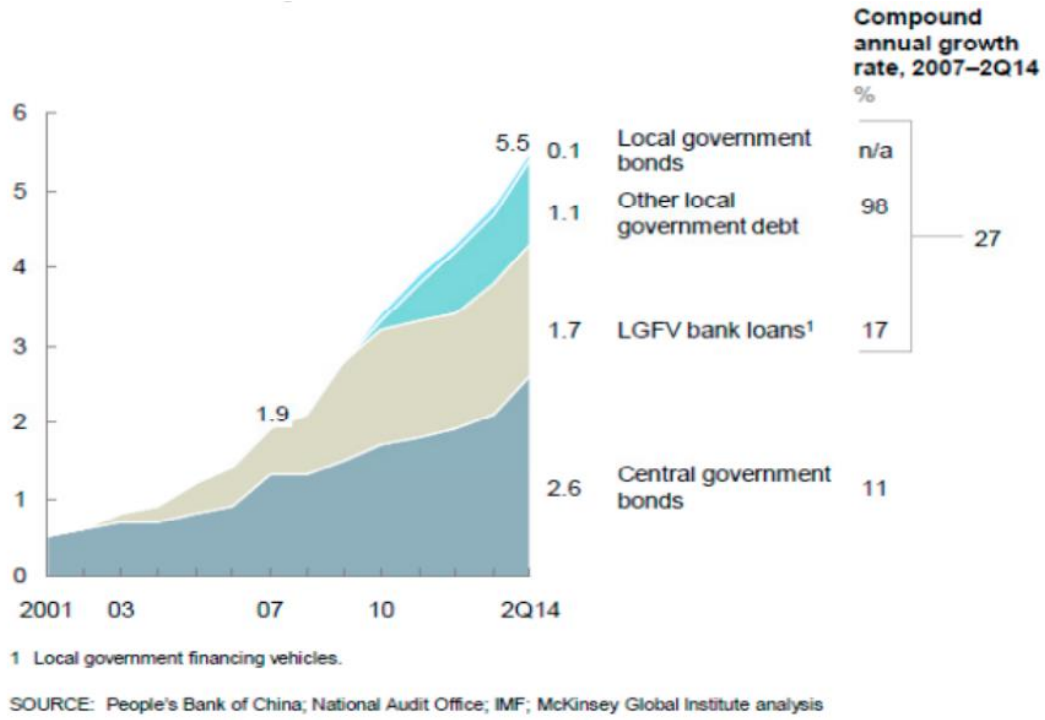


Source: Lu, Y., & Sun, T. (2013). Local government financing platforms in China, p. 12. *IMF*.

While the central government has worked to slow LGFP loans over the past five years, IMF data have shown that many of these regulatory changes have not had a large effect. In Figure 4 below, the amount of LGFP bank loans increased at a 17% rate through the second quarter of 2014. LGFP loans continue to make up an increasing chunk of total government debt, and total government debt also has continued to increase. A recent analysis done on local

government debt found that the bond market reacts to local housing market conditions, and municipal bonds price in risk from local housing (Ambrose, Deng, & Wu, 2015). The authors also found that cities and provinces that expected to have a high housing growth rate had the highest accessibility to loans due to high credit ratings (Ambrose, Deng, & Wu, 2015). This report aligns with the fact that many cities on China's east coast have a high proportion of LGFP loans due to their high housing growth rates. Future LGFP growth is expected to increase in areas that currently have low growth, which could be notable due to the potentially high risk of debt in areas with less stable economies.

Figure 4. *Outstanding Balance of Local Government Debt by Source.*



Source: Ambrose, Deng, & Wu. Understanding the risk of China's local government debts, p. 7.

All forms of local government debt increased at an annual growth rate of 27% from 2007 to the middle of 2014 (Figure 4). Since many local governments have been unable to control their debt levels, they have continued to develop large urban areas at a high rate that provide a source of income to the budget. In the lower-tier cities in China, supply is growing at a high level but without the same level of demand that exists in first-tier cities, resulting in a supply glut (Wallace, 2014). It is thus important to gain a better understanding of what impact these urban developments, known as "ghost cities," will have on the real estate market and economic growth in China.

Chapter 5: Ghost Cities

Introduction

A popular trend among the Western media is the discussion of "ghost cities" – newly-built cities in China that are almost completely empty and have little economic activity. Local governments have helped to build many of these cities, which have a capacity for hundreds of thousands or even millions of residents and are a symbol for a modern, consumption-oriented China. Many ghost cities, including the Zhengdong New Area near Zhengzhou, have seen a dramatic improvement in population after a few years, as people began to commence with economic activity in the area. Other ghost cities that today remain vacant or have stagnated significantly, like the Kangbashi development near Ordos in Inner Mongolia, are the product of factors that have been discussed in this paper. One factor is the offsetting of local government shortfalls through real estate projects that rely on an expected increase in value (Wallace, 2014). Placing both land and capital funding in the control of local governments has resulted in extensive building that has occurred in some places with no prejudice to the idea of building restraint. Another factor for excessive building has been the ability of real estate projects to provide a source of high yield for wealthy investors, as mentioned in Chapter 3. Finally, the central government initiative to increase migration to urban areas outside of the 1st-tier cities has encouraged the building of new urban areas (Johnson, 2013).

An area of concern for new urban developments is the lack of alignment of interests among the stakeholders involved in the creation of new property developments. Rather than creating a city center to maximize economic activity or to promote the well-being of its citizens, local governments and developers are producing urban areas with a flashy appearance that entices investors into providing funding for new real estate developments. Examples of ghost

cities that have remained empty include ones made up of European-style buildings[6] and skyscrapers modeled after buildings in Manhattan[7]. Even if the project is not as successful as the investors would like, it has the potential for a high yield that is scarce in the Chinese capital markets. The investor money then goes to local governments, who can use the funding from land sales and the inflows from investors to help improve their budget shortfall. The inefficiencies that exist with the project can be pushed aside, mainly because the relationship between the developers, investors, and governments is beneficial for all three parties. Urban developers fear that the creation of new urban areas that are made up of conflicts of interest result in a negative long-term effect on the economic distribution of resources in the area, a diversion of funds from high-priority local government services to useless developments, and a dissipation in the cultural uniqueness of Chinese cities (Yeh, Xu, & Liu, 2011). The diverging interests between developments and the people for which they are intended can be seen on a smaller scale as well. In some cities, multiple airports are being built to benefit the three stakeholders involved without considering whether an additional airport is actually needed in the area.

New developments are able to take advantage of the seemingly continuous real estate bull market that exists in China. Almost as soon as a new development is built, wealthy investors begin to speculate on the value of the property, hoping to take advantage of what they believe is a continued upward trend in the market. If they can get a stake in the project early, then the investors believe that they will make a high return on their investment as they ride the real estate market up. These opportunities, however, cannot be viewed in quite the same way as those made in a city like Shenzhen or Shanghai. Those cities have an established real estate market and a sense of supply and demand, while a new urban area has no history of known demand. Investor

[6] Thames Town near Shanghai
[7] A financial district near Tianjin

inflows increase the price of housing for the people who were to move into the new development, which results in potential residents living outside the new development to avoid the inflated prices.

Ordos and the Development of Kangbashi

Ordos, a coal mining city in Inner Mongolia province, fell prey to property speculators after the building of its new district known as the Kangbashi New Area. The Ordos city government held excess capital from its recent economic successes, and the government believed the new urban area would help to connect the small cities together economically. The development of Kangbashi began in 2003 and was completed a few years later, with a capacity to hold up to a million people. However, the population of the town remained only in the tens of thousands. In the years since its development, Western media sources, including *Al Jazeera*, *Time*, and *The New York Times*, all reported on this overbuilt city as a sign of the overheating of China's property market. The articles described what they called a "ghost city": large, empty boulevards and plazas, scores of empty apartment buildings, and new museums and sculptures that could be found in any modern city in the world (Rosen, 2015). The emptiness of Kangbashi was strange and absurd to journalists who came to see it, unable to understand why it would be built and the factors behind it. It seemed like the product of market excess, one that would end with an inevitable property meltdown like the Great Recession and housing crisis in the West. Financial factors specific to China had largely not been considered in their analysis. While urbanization in China has not been as out of control as the media may have thought at the time, the media did bring awareness to China's urbanization situation. Questions raised as to whether the new developments would benefit the local government or the people most of all has sparked research into the stories behind these developments.

Figure 1. *Vacant Buildings in Kangbashi*

Source: Brown, M.C. Ordos, China. A modern ghost town. *Time*.

Before 2000, the city of Ordos had been one of the poorest in the country. Around the turn of the century, the city experienced a large economic boom because of its significant reserves of energy resources. Ordos had one-sixth of the total reserves of coal in China, and the province's per capita income grew to be one of the highest in the country (Rosen, 2015). Coal mining was the main driver of the Ordos economy, and natural gas production also helped to solidfy Ordos's growth. Retrieving natural gas reserves were the future, providing the rest of China's provinces with a cleaner source of energy than coal. This new energy source, while not as plentiful as coal in Inner Mongolia, was important for China to achieve its push to meet global pollution standards. While the Ordos municipality boomed from coal mining, many of the migrants moving to the area for work were some of the poorest in China (Sorace & Hurst, 2015). The Kangbashi New Area, which was to be built near Ordos, was supposed to provide housing to

the migrants at a low cost. However, the newfound wealth for the people of Ordos allowed many of them to invest in property in the Kangbashi New Area, raising property prices significantly. Investor speculation forced migrants who arrived to work in Kangbashi to live in the outskirts of the city, because they could no longer afford to live in the city proper (Sorace & Hurst, 2015). Thus, the new city of Kangbashi remained mostly empty, and economic activity was hindered by the lack of population.

After being placed in the Western media spotlight in 2009 and 2010, Kangbashi showed signs of increasing economic demand. From 2012 to 2014, the city population increased to 100,000 (Rosen, 2015). However, economic activity began to stagnate due to energy changes in China. The Chinese government moved away from coal mining into cleaner sources of energy as a way to reduce pollution. While this change had been expected, the province has struggled to switch its economy to natural gas production and away from coal. The recent slowdown puts the property developers involved with the Kangbashi development at a risk of default. The initial project cost about $160 billion to make, and the property developers in Ordos had made a nearly $190 million investment on Kangbashi that was now at a risk of default (Chen, 2015). The bond ratings on bonds issued by property developers began to slide in 2015, as investors recognized that the AA credit rating could not be backed up with revenue from the property development. One Ordos property developer had CNY 170 million of overdue bank loans at the end of 2014, CNY 6.69 billion of debt, and an annual loss of CNY 725 million (Chen, 2015). As interest rates rise as expected on the bonds due to the increasing risk of default, the price of the bonds will continue to go down, decreasing the value of the property owners' position. Fearing potential systemic risk to the regional financial system, the Ordos government has not attempted to bail out any failing companies and will let them default on their obligations (Chen, 2015). Ordos is

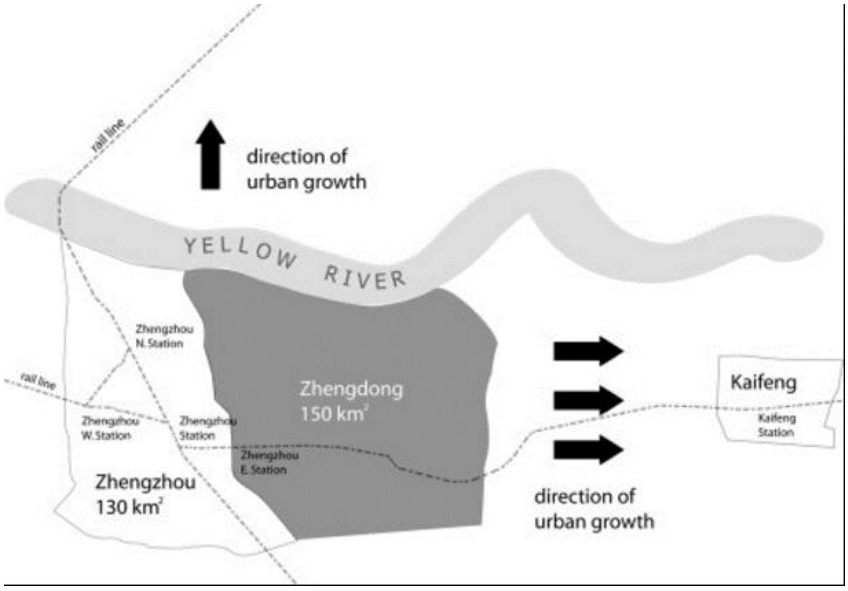
one of only a few urban developments that has been unable to turn around its financial and real estate issues. Debt problems that exist in Ordos have yet to spread to other governments or property developments in the rest of China. However, that does not detract from the fact that local government debt continues to increase without a similar increase in revenue. The seemingly impenetrable Chinese real estate market will eventually see a building slowdown, as debt continues to increase on the balance sheets of developers and local governments. Cities increasingly reliant on real estate, or lacking in economic diversity, could experience difficulties like Kangbashi when attempting to service large development projects.

The Development of Zhengdong New District

Like the city of Ordos, local governments in other cities in China have pushed the central government for approval of large urban development projects to boost the image of their cities and relieve pressure from high population density. These cities are also dealing with similar problems regarding local government debt, with yield-hungry investors using real estate as a source of high investment returns. The city of Zhengzhou, a second-tier city located in the central Chinese province of Henan, experienced rapid population growth that put pressure on the local government of the city to expand its size in the early 2000s. The local government wanted to modernize the city and make it a symbol for Chinese economic success. The government had a goal of improving the city's reputation up to the first-tier - the same level of prestige as the eastern cities, like Shanghai and Beijing, and southwestern cities like Guangzhou and Shenzhen. For this reason, the Zhengzhou government chose Japanese architect and urban planner Kisho Kurokawa to build the Zhengdong New District, believing that he could bring urban development ideas from various foreign cities to create a new city district that would be unique in all of China (Xue, Wang, & Tsai, 2013).

The city of Zhengzhou had a population of about 2.5 million in 2000, and the size of the city was 132 square kilometers.[8] Kurokawa planned the new development, known as Zhengdong New District, to be 150 square kilometers, which would be built adjacent to the city of Zhengzhou (see Figure 6) and effectively double its size (Xue et al., 2013). In a similar manner to Kangbashi and Ordos, the new area would provide a wide range of new public infrastructure, including a business district with skyscrapers and apartments, museums, plazas, and green space. One should also take note of the location of the city and its new district along the Yellow River, which has had the tendency to dry up (Figure 6). Public approval was strong for Kurokawa's plan with the exception of the use of water sources for beautification. The Chinese feared long-term water shortages as a result of extensive building and made their complaints known in a 2006 article in *China Economic Weekly*. Kurokawa as a foreigner did not know the context of this problem when designing his plan, nor was he given enough time by the Zhengzhou government to properly consider all details of the project.

Figure 2. *Map of Zhengdong New District and Zhengzhou*



[8] Based on Zhengzhou population data taken from the Zhengzhou government website

Source: Xue, C.Q.L., et al. (2013). Building new towns in China – A case study of Zhengdong New District.

One of the ways that the plan for the Zhengdong New District could have been improved was simply to allow more time for the plan to be developed. Further due diligence could have helped those involved with the Zhengdong project to figure out ways to maximize the welfare of the people rather than just the welfare of the local government. However, local government politicians often are not willing to wait for a plan to be thoroughly vetted. City leaders are only in office a short period of time - about three years - and they have certain growth targets that they have to meet (Woodworth & Wallace, 2017). Ultimately, the way local leaders in China receive greater responsibilities is not by getting voted into higher office like in the West, but with the approval and appointment of central government officials. The local leaders can maximize funding and benefits by making these large-scale, "new town" areas quickly to capitalize on the increase to budget funding, raise property prices, and market the new district across China (Woodworth & Wallace, 2017). The creation of the Zhengdong New District is no exception: the plan had to be put into place quickly to maximize the economic benefits to the local government. As mentioned earlier in the chapter, the local government budget shortfall has an important role in the decision-making process of local government officials, who utilize their role in land control to provide a boost in funding to the budget. These factors should not completely discount the fact that in this case, Zhengzhou had also been dealing with a shortage of space in its urban areas, a major public welfare factor for their decision to build the new town. Nevertheless, the people of Zhengzhou did not move quickly into the new urban district, even if it provided a greater amount of space. Zhengdong remained relatively empty until the 2010s, while growth in

Zhengzhou only continued (Xue et al., 2017). The undertaking to build the new district was massive, yet it did not produce a great movement in population that could properly utilize the public infrastructure that had been built. The question remained as to why such an underutilization existed, and why new developments like Kangbashi and Zhengdong had had such issues.

One reason for the underutilization of Zhengdong was that much of its property had been taken by investors looking for yield. Investors, while providing money to a project, do not live in the places in which they invest, leaving them vacant. Real estate is an essential asset class in China, as the capital markets remain underdeveloped and the yield on bonds remains low[9] (Ong, 2014). These new districts initially do not have the economic pull to attract jobs and migrants like first-tier cities Shanghai or Shenzhen (Wallace, 2014). While first-tier cities are also having huge booms in building, they have a greater mix of people, including people interested in occupying the buildings and some investors who leave them vacant. The rates of growth in supply are very high in the small cities of China, but the increase in supply outpaces the growth in the households occupying the new dwelling (Wallace, 2014). When considering the debt factors mentioned earlier in this chapter and in previous chapters, the scale of the debt faced by local governments in the small cities prevents them from slowing the housing market. It appears that local governments in these cities need new developments like Zhengdong to help their debt situation, even if it results in a significant number of empty buildings.

Due to the scope of the project, Zhengdong was in need of funding from outside investors. One method used by the local government was to take out loans from banks that could be used specifically on government projects (Xue et al., 2012). When the price of the land

[9] The trend for investors to use real estate to provide yield is noted in an earlier chapter of this thesis on wealth management products

increases, the government leases the land at a high rate to pay back the bank loans (Xue et al., 2012). This method presumes that the prices of land will continue to rise, which ties the government even more closely to the success of the project. Even by making what could best be considered a speculative bet on the price of land, the Zhengzhou government gained significant profits from this form of financing. In 2003, a piece of land was sold for a record amount in the province. In 2010, the government set new prices for land sales – ten times higher than the record sale in 2003 (Xue et al., 2012). As one might expect, the buildings and land were not being occupied by actual users, but instead by speculators who were taking advantage of the price increases. Based on government data in Zhengzhou, per capita income ranged from 10,000 CNY to 18,000 CNY. At this time, even small apartments in Zhengdong could be rented for tens of thousands of USD per year. There was little chance that locals interested in moving to Zhengdong would be capable of doing so due to the high prices. After a long period of demand issues, Zhengdong's property market finally stabilized over the past five years.

Recent Positive Developments

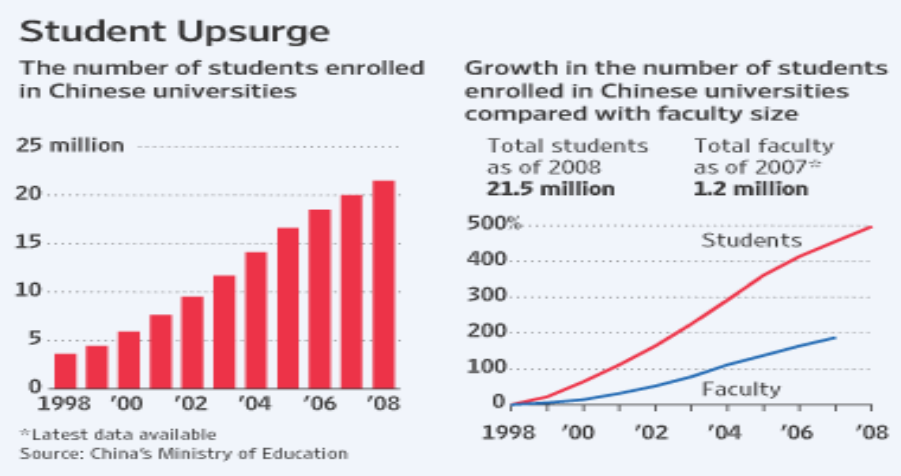
Zhengzhou and the Zhengdong New Area have exploded in growth since 2010. According to Zhengzhou's government website, the population was estimated to be 2.5 million in 2000 and is now over 9.5 million in 2015. Wade Shepard, an author and researcher focusing on China's ghost cities, believes that Zhengzhou is an example of the overreaction by the Western media in regard to China's urban developments (Shepard, 2015). The Zhengdong New District saw a doubling in its occupancy rate from 2012 to 2014, and the Zhengzhou metropolitan area has been thriving (Shepard, 2015). Shepard is correct in saying that the Western media has exaggerated the characteristics of some of the ghost cities, which has hurt their reputation. He is also correct that focusing on the vacancy rates in cities alone does not

show the whole picture of China's real estate market. However, as seen with the complex relationships between local governments, investors, and real estate developers, one cannot simply take the opposite approach and conclude that all of these cities will eventually fill with people as expected. Speculation and overly ambitious governments are also key factors for the success of the ghost cities. While the situation of Zhengzhou New District improved with time and economic success, Kangbashi in Inner Mongolia has struggled as the area economy stagnated. The local government promoting these projects should carefully consider the purpose of the project and the length of time needed to make it a success, considering the catalytic effect of the real estate market and a possible downturn of the economy.

The Development of University Towns

In a similar manner to other large urban developments, local governments have built large developments near major cities that are intended for students attending universities, known as "university towns." Since 2000, over 100 university towns have been built, with most located a short distance from major cities, varying in cost from $170 million to $4.8 billion (Li, Li, & Wang, 2014). These university towns are being built as the number of students enrolled in Chinese universities (Figure 3) increased by five times from 1998 to 2008.

Figure 3. *Increase in Students Enrolled in Chinese Universities*



Source: Johnson, I. (2009). China faces a grad glut after a boom at colleges. *WSJ*

A possible reason for the emergence of university towns is the Chinese hope of building a culture of academia that exists in Western cities like Oxford in the United Kingdom or Boston in the United States. There is also a need to develop an educated workforce as the country's economy grows more complex. The rapid development and spread of university towns since 2000 is similar to rapid building of urban districts. Like the urban districts, local governments have had a role in financing the university towns as well. To build university towns, local governments are taking formerly rural land and urbanizing it, adding value to the land.

This process appears to be fairly consistent in the development of university towns and has been termed "speculative urbanism" (Li, Li, & Wang, 2014). The term speculative urbanism describes the process local governments take to invest in land urbanization for profit even with a high risk of failure (Li, Li, & Wang, 2014). Researchers arguing for the existence of speculative urbanism believe that the goals of the local government supersede market forces and public welfare. It provides a way to service local government debt or provide a profit, and it also gives local leaders the opportunity to advance up the government chain, as can be seen with government leaders in Zhengzhou and many other localities.

Summary

Local government debt at the province and municipality level in China continues to increase at a rapid rate. The local governments are dealing with a natural budget shortfall that exists due to low tax revenue and expenses that are consistently higher than what local governments can cover. Large cities, mainly in the eastern portion of the country, are characterized by high absolute debt levels and a relatively low debt-to-GDP ratio. Small cities in

western China have very high debt-to-GDP ratios and need the equivalent of several years of revenue to cover their debt. As a way to borrow funds, local governments are using local government financing vehicles and platforms (LGFPs), which are state-owned enterprises that have the ability to borrow money from banks for property and land transactions. Data have shown that local governments in all provinces are increasingly reliant on land sales to provide revenue, and LGFPs add significant exposure to the real estate market. The proportion of local government debt being handled by LGFPs has increased in recent years, and it now makes up a consequential percentage of total government debt. Government regulations have been unable to slow down the rate of growth of LGFPs. Real estate prices, while known for their consistent gains over the past fifteen years, also add significant volatility to government balance sheets. Any momentous drop in real estate prices could squeeze LGFPs, as many have been adding projects with maturities of five years or greater. Liquidity issues could result if local governments cannot find new sources of revenue to cover minimum costs like the interest expense on loans. The most palpable evidence of the reliance on real estate is the creation of new urban developments known as ghost cities. Ghost cities are complete with urban infrastructure and housing for hundreds of thousands of residents but have few actual residents living in them. Ghost cities are created out of the mutual benefit of real estate developers, local governments, and investors. The government of Ordos created the Kangbashi New Area in the hopes of using the new development to propel Inner Mongolia's economic growth and modernization. Issues with economic speculation, bond defaults, and an economic slowdown have prevented Kangbashi from being the economic center in the region, and it serves as a warning for other local governments becoming increasingly reliant on property development for revenue. Sustained economic success can help alleviate the initial hit from high costs and slow population

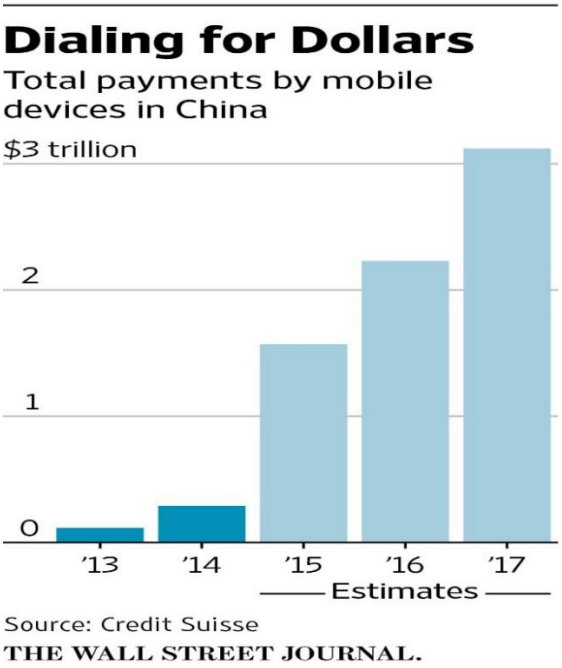
migration. Zhengzhou's economic success led to the eventual migration of people into Zhengdong New District. Much like the urban districts, university towns have also been popular projects for local governments engaging in speculative urbanism. Local governments are willing to take large risks to urbanize formerly rural areas by creating urban areas around universities. Local officials can point to large urban projects as a sign of political success while also using land sales to improve budget funding. These issues will only continue unless local governments find more diverse, sustainable sources of revenue and receive help from the central government to reform the annual budget shortfalls that are increasing local government debt.

Chapter 6: Moving Forward – The Future of Shadow Banking in China

Mobile Finance and Shadow Banking

China's asset management industry is changing rapidly due to investments made through unregulated personal finance companies and the use of mobile technology. As mentioned in the previous chapters, Chinese investors increasingly moved their money into projects with high risk and high returns, particularly real estate developments. Wealth management products have become a common financial instrument that serve investors' needs while also avoiding Chinese government regulations. One area of interest that could increase investor risk is the rapid adoption of mobile technology by investors to handle their investing needs. Mobile payments made up $200 billion of transactions in 2015 (Figure 1), and they could reach $3 trillion by the end of 2017 (Areddy, 2017). Thousands of companies in China have been established to take a piece of the growing mobile finance industry, and many of these companies are unregulated.

Figure 1. *Increase in Mobile Payments in China*



Source: Areddy, J. (2017). Swipe by swipe, Chinese smartphone users flock to risky investments.

The growth in mobile finance provides opportunities for investors, allowing them to pick from a variety of investments and make transactions instantly. Technology can help open up the capital markets in China, but it will also add risks if the government is unable to regulate growth. Issues have already arisen due to the lack of trustworthiness of some financial technology companies. Many investors buy a stake in small enterprises through these unregulated internet finance companies, who then make transactions on behalf of investors in the company (Areddy, 2017). When the investment companies run into financial issues, investors lose all of the money they invested. Some companies who have issued bonds through the online financial system, like the electronics company, Cosun Group, failed to repay the bonds as expected, resulting in significant personal losses to investors (Areddy, 2017). Mobile finance is increasing the exposure of personal investors to the shadow banking system and will continue to grow rapidly with the rapid growth in shadow banking.

Servicing Local Government Debt

The amount of debt overhang on local governments has begun to weigh on local government financing vehicles (LGFVs, or LGFPs). Over the past year, from April 2016 to April 2017, the yield spread between AA-rated LGFP bonds and corporate notes has switched (Figure 2). There used to be a risk premium on corporate notes that resulted in these notes having a higher yield than LGFP bonds. However, it is now the LGFP bonds that have a higher yield to maturity due to a 70 basis point increase over the past year (Figure 2). The lack of short-term confidence in LGFP bonds is a result of the Chinese government attempting to lower local

government reliance on LGFPs for debt (Tu, Kang, Zeng, & Zhao, 2017). However, many long-term factors also exist for local government debt.

Figure 2. *The Increasing Gap between LGFP Bonds and Corporate Notes*

Source: Tu, L., et al. (2017). Traders are worried about China local government debt again.

Long-term factors for LGFP debt have decreased investor confidence and lowered demand for debt issuances. Revenue sources for LGFPs have decreased, even as local governments continue with urban development projects. Recently, S&P Global ratings downgraded the debt of a LGFP in Jiangsu province, concerned about the debt load of the province (Tu et al., 2017). The central government's shift away from helping LGFPs puts them in a tough position, as many LGFPs have to pay for maturing debt as a result of consistent local government fundraising. About 888 billion yuan of LGFP debt matures in 2017, which is about one-sixth of the total amount of debt of 5.5 trillion yuan (Tu et al., 2017). Based on these long-

term factors, the yield spread of LGFP bonds over corporate bonds should continue to increase. It is also likely that small localities backed by small LGFPs are in greater danger than large LGFPs, as the small ones have less stable revenue sources and are perceived as having greater investment risk.

Summary

Both investor and local government-related issues in shadow banking will continue to have ramifications on the economic and financial future of China. Investor preference for mobile finance technology makes it even easier to gain instantaneous access to a wide range of investment products. Many finance technology companies utilize shadow banking to provide investors with the opportunity to invest in small companies, commodities, and real estate projects. Decreasing confidence in the ability of local governments to service their debt will eventually slow the pace of local government financing platform investments in urban development projects. Without funding from LGFP bonds and shadow banking, local governments will not be able to sustain the same level of urban development as they have had over the past two decades. Addressing these concerns will be vital for China as it continues to strive for new economic heights.

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Biography

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